Shenzhen Yunding Communication Electronics Co., LTD

TEL：+86 0755-23073599 FAX：+86 0755-23097189 E-mail:wht0809@163.com

APPROVAL SHEET

CUSTOMER： **Wuxi Future Mirror**

DESCRIPTION： **Double copper tube antenna-WIFI ANTENNA**

PART NO.：

CUS PART NO.：

D A T E： **2024.5.15**

Yunding signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	SALES DEPARTMENT

Customer signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	PURCHASING DEPARTMENT

TEL：0755 23073599

※ Approval in duplicate, please signed by your company.

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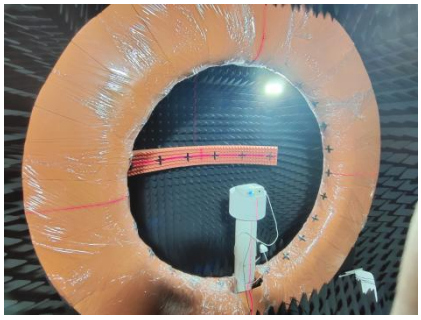
1.Test items and equipment

	Test items	Equipment
1. S11-parameter	1. Return Loss 2. VSWR	network analyzer: Agilent E5071B HP 8753D
2.Active test	1. Transmitting power 2. Receiving sensitivity	1. Darkroom：ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.general-purpose tester : Agilent 8960 E5515B ×2 StarPoint SP6011 Cmw500
3. Passive test	1.Gain 2.Efficiency	1. Darkroom：ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. network analyzer：Agilent E5071B HP 8753D



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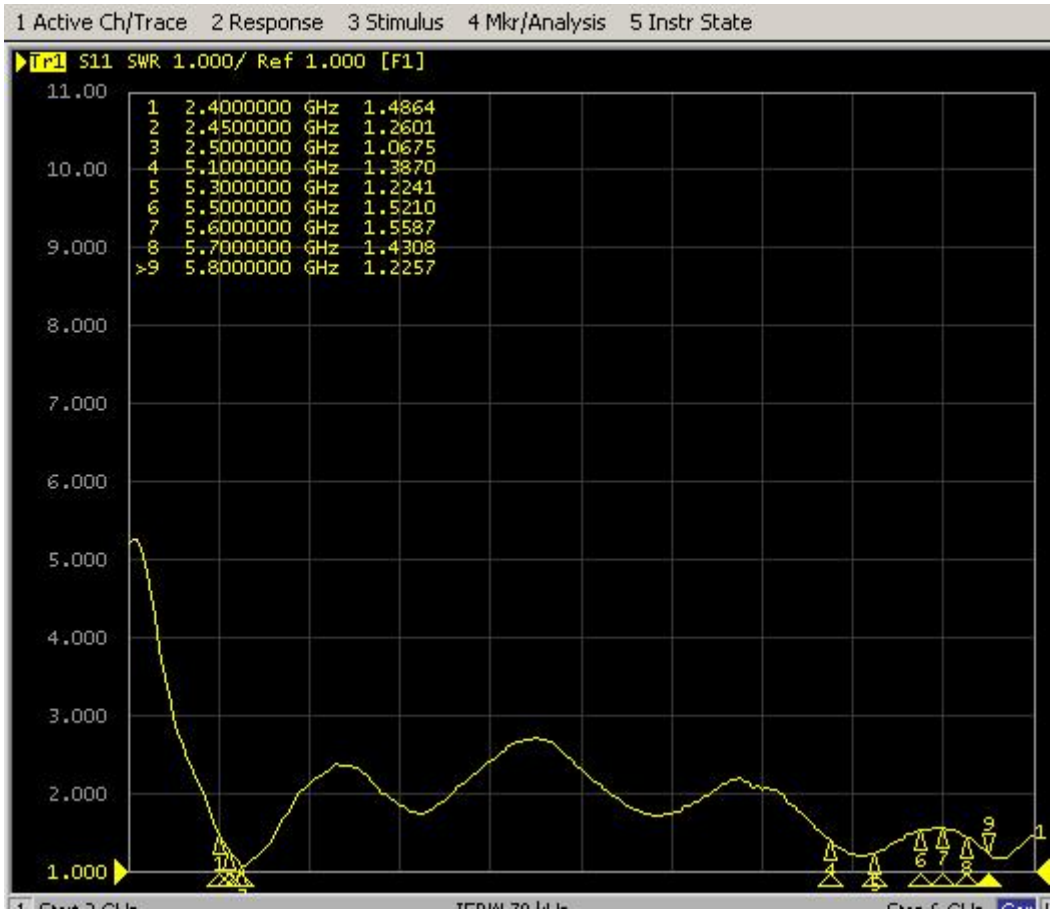
2.Antenna performance

SWR



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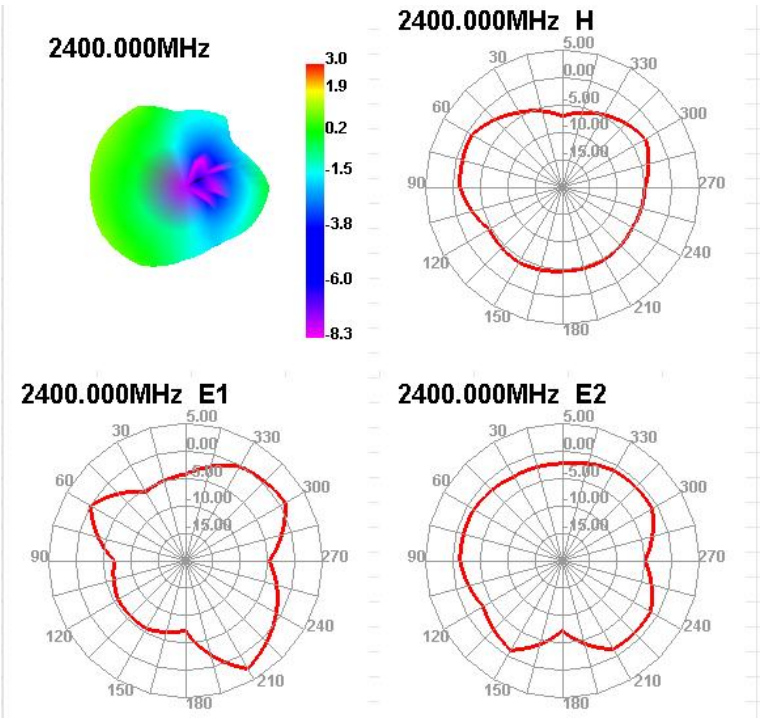
3.Antenna efficiency and gain

Passive Test For WIFI		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	65.99	2.99
2410	61.32	2.62
2420	60.58	2.52
2430	61.75	2.58
2440	64.63	2.73
2450	66.86	2.86
2460	67.45	2.92
2470	68.53	3.02
2480	67.12	2.94
2490	64.57	2.74
2500	63.95	2.7



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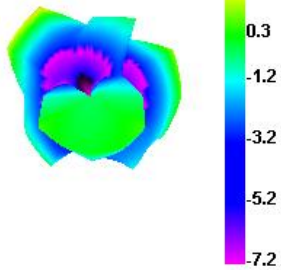
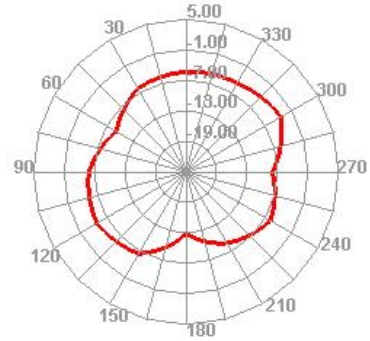
Passive Test For WIFI-5G		
Freq (MHz)	Effi (%)	Gain (dBi)
5100	47.61	2.49
5200	45.39	2.67
5300	45.1	2.76
5400	50.94	2.59
5500	47.98	2.49
5600	48.41	2.25
5700	50.82	2.02
5800	44.69	2.13

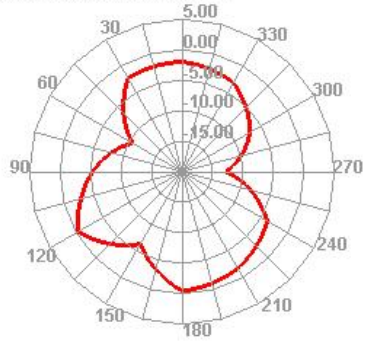
5300.000MHz



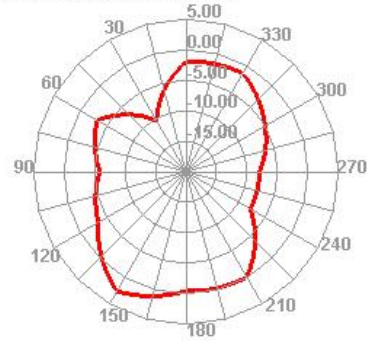
5300.000MHz H



5300.000MHz E1



5300.000MHz E2



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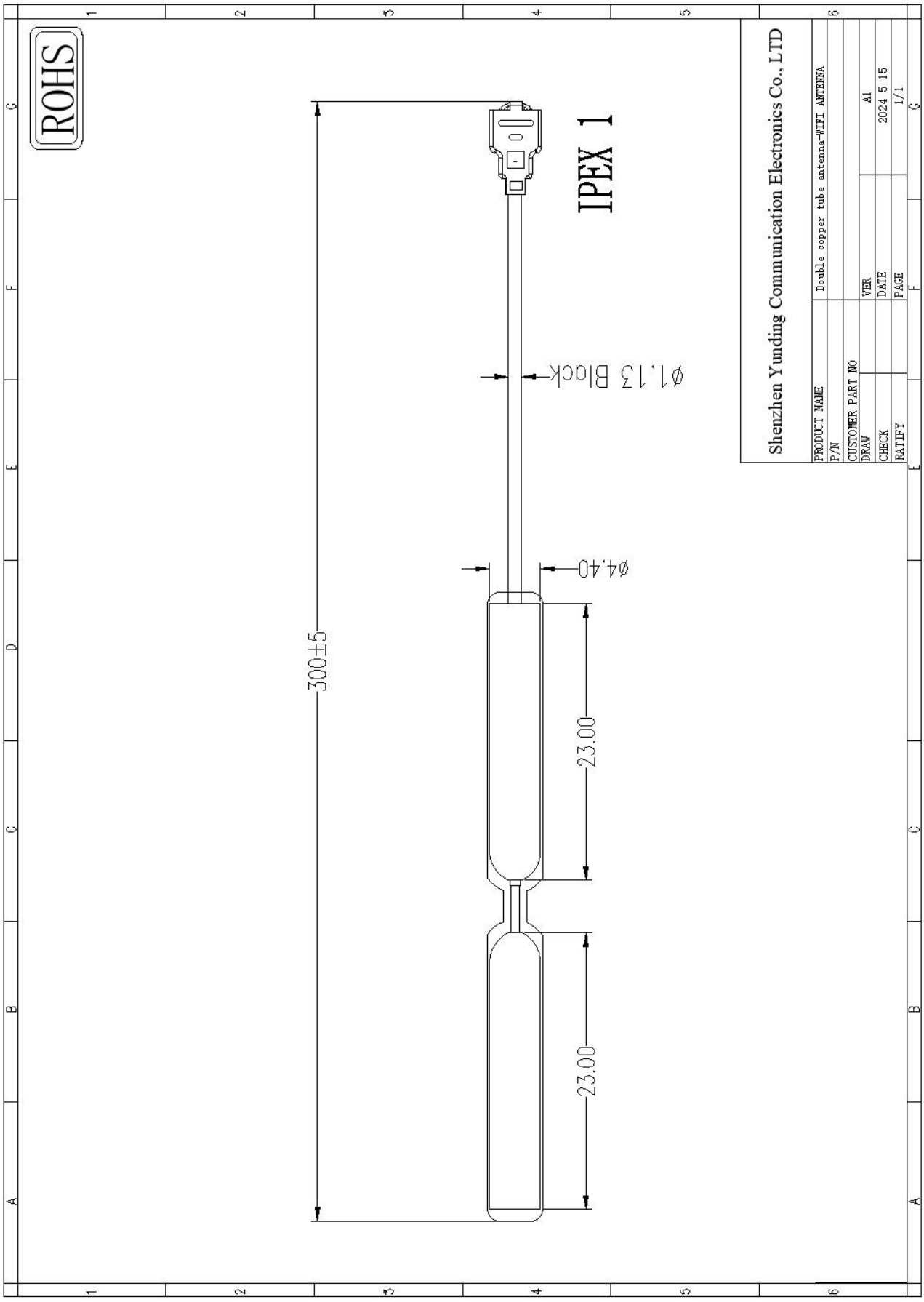
4.Antenna structure diagram：



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Technical parameters of electrical apparatus

Electrical Specifications	
Frequency Range	2400~2500/5100~5800MHz
VSWR	≤2.0
Gain	3 DBI
Input Impedance	50 Ω
Maximum Input Power	50W
Mechanical Specifications	
Antenna Color	Black
Input connector	IPEX 1
Antenna length	300mm
Working Temperature	-40℃~+85℃
Working Humidity	20~80%

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Environment performance test:

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings :1.Temperature: -30 ℃ ~ +80 ℃ ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between -40℃ to 70℃,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity:95±3%,Test temperature: 40℃,last 2 hours , put it after 5 min test the electrical function . Test products during common condition 1-2 hours , Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1m height fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal

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